

may be available to students of the Galapagos avifauna, leaving the critical study of the 5,916 specimens of land birds and the collection of nests, eggs and stomach contents for future investigation.

While it is regrettable that the entire collection could not have been worked up promptly by Mr. Gifford, who of course knows more about it than anyone else, we are nevertheless grateful for the large amount of interesting information relating to the life histories of the birds of these famous islands, which he has made available to the student.

Of the thirty-six species referred to in the paper all but three are resident forms. The Barn Swallow, was found at Cocos Island on September 2 and 5 and at Charles Island on October 11 and 12, and a Bobolink came on board the vessel in lat. $7^{\circ} 23' N.$ long., $97^{\circ} 48' W.$ on September 28 and again in lat. $14^{\circ} 24' N.$ long., $106^{\circ} 42' W.$ on October 3, these locations were between 300 and 500 miles off the Central American coast. A Redstart also came on board near the last mentioned station. These records will prove of interest to students of migration.—W. S.

Hall and Grinnell on Life-Zone Indicators in California.¹— This important and timely paper should be read by all students of geographical distribution. As the authors point out it is only the naturalist of wide experience and with a knowledge of both zoölogy and botany who can accurately judge of the zonal affinities of a given region, and as the attempt is too frequently made by those who are not so qualified, grievous errors are made and authors often, from lack of knowledge of the situation which confronts them, fall back upon the unfortunate and reprehensible practice of coining special terms of their own to fit the apparently anomalous conditions which they find. The present authors have presented a list of plants and vertebrate animals which are characteristic of the several life zones that occur in California, as a guide for those who are studying zonal distribution of life in that State. They also offer a list of influences which tend to interfere with the orderly succession of life zones as they would occur if dependent wholly upon temperature and altitude. Foremost among these is of course, slope exposure, followed by air currents, cold water streams, evaporation from moist soil, proximity to large bodies of water, influence of lingering snow banks, changes in vegetable covering, extent of mountain area, and rock surfaces. Many of these affect plant life only, though a knowledge of them may also explain many local anomalies in the distribution of animals.

The trouble heretofore seems to have been that botanists rely too much upon soil composition and character to account for distribution, while zoölogists — some at least — have ignored everything but temperature and altitude. The happy combination of a botanist and zoölogist in the

¹ Life-Zone Indicators in California. By Harvey Monroe Hall and Joseph Grinnell. Proc. Calif. Acad. Sciences. Fourth Series. Vol. IX, No. 2, pp. 37-67. June 16, 1919.

authorship of the present paper has apparently resulted in a more equable treatment of the problem than has yet been presented.

The important facts are brought forcibly to our attention that we must not look for all or even a majority of "indicators" in any one locality since other conditions limit the range of most species *within* their zone. Moreover, a thoroughly typical species may occur outside of its zone as a straggler without lessening its value as an "indicator" of the zone — in other words the abundance of the species must be taken into consideration as well as its mere presence.

We trust that ere long we may have an authoritative list of zone "indicators" for other regions besides the Pacific coast.— W. S.

Dabbene on Argentine forms of the Genera *Geositta* and *Cinclodes*.¹— In this important systematic paper, Dr. Dabbene has carefully reviewed the Argentine species and subspecies of these two genera, giving full descriptions of the plumage of each, an apparently complete synonymy, tables of measurements of specimens examined, and keys for identification. There are also half-tone plates illustrating the habitats of some of these birds in the mountain regions of north-western Argentina and maps showing their geographic distribution.

By the careful work of Dr. Dabbene and his associates we are obtaining a thorough knowledge of the Argentine avifauna such as can only be supplied by capable resident ornithologists. We congratulate them upon the admirable results of their studies and hope that their researches may continue without interruption.— W. S.

Cory's 'Review of the Genera *Siptornis* and *Cranioleuca*.'²— After examining all of the species of the old genus *Siptornis* that were available Mr. Cory has presented a key to the genera into which he would divide the group and another key to the species and subspecies. As an aid to the identification of these difficult birds it will be of much assistance but from the tentative position to which he refers a number of species that he was unable to examine, it is evident that there is still much to be learned about the group.

According to the author's views the old name *Siptornis* must be restricted to the type species, and most of the others referred to *Cranioleuca* Reichb. *S. ottonis* however, he makes the type of a new genus *Pseudosiptornis* (p. 150), while *S. flammulata* becomes the type of another new genus *Siptornoides* (p. 150) which includes ten other species. Some of these however, are separated again under the subgeneric name *Eusiptornoides* (p. 150) type *S. anthoides*.

¹ Las Especies y Subespecies Argentinas de los Generos *Geositta* Swainson y *Cinclodes* Gray. Por Roberto Dabbene. Ann. del Mus. Nac. de Hist. Nat. de Buenos Aires. Tom. XXX, pp. 113-196. July 11, 1919.

² A Review of Reichenbach's Genera *Siptornis* and *Cranioleuca*, with Descriptions of New Allied Genera and a Subgenus. By Charles B. Cory. Proc. Biol. Soc. Washington, Vol. 32, pp. 149-160. September 30, 1919.